GETSOV, Iosif Yefremovich, dotsent, kand.tekhn.nauk; GUSEV, M.N., retsenzent; CHEREPNIN, V.Ye., retsenzent; CHERNOV, M.I., red. VINOGRADOVA, M.M., red.izd-va; BOBROVA, V.A., tekhn.red.

[The design of ship-repair and shipbuilding enterprises] Proektirovanie sudoremontnykh i sudostroitel'nykh predpriiatii. Moskva, Izd-vo "Rechnoi transport," 1959. 335 p. (MIRA 13:6)

(Shipyards) (Shipbuilding)

CHERNOV, M.I., inzh.; MAKARYCHEV, M.A., inzh.

Raise the level of fleet technical operation. Rech.transp. 18 no.6:23-24 Je '59. (MIRA 12:9)
(Ships--Maintenance and repair)

CHERNOV, Mikhail Ivanovich; ISLANKINA, T.F., red.; SAVCHENKO, Ye.V., tekhn.red.

[Vessels with underwater wings] Suda na podvodnykh kryl'iakh. Moskva, Izd-vo "Znanie," 1960. 28 p. (Vsesoiuznoe obshchestvo po rasprostraneniiu politicheskikh i nauchnykh znanii. Ser.4, Nauka i tekhnika, no.10). (MIRA 13:4)
(Planing hulls)

GEL'FAND, Aleksandr Yevseyevich, inzh.; GETSOV, Iosif Yefremovich, kand. tekhn. nauk; CHERNOV, M.I., retsenzent; DOLGOLENKO, P.V., retsenzent; TYUTCHEV, N.A., red.; VITASHKINA, S.A., red. izd-va; YERMAKOVA, T.T., tekhn. red.

[Precision and finish of the machining of parts in repairing ship machinery] Tochnost' i chistota obrabotki detalei pri remonte sudovykh mekhanizmov. Moskva, Izd-vo "Rechnoi transport," 1961. 151 p. (MIRA 14:12)

(Marine engines—Maintenance and repair)

BENUA, F.F.; DUKOR, Z.G.; KLYUSHENKOV, I.S.; KONSTANTINOV, V.P.; KOTLYAR, D.I.; MAYKOV, N.K.; PRAYSMAN, A.D.; SERGEYEV, V.I.; TRUFANOV, V.G.; FEDOROV, V.F.; FRUMIN, S.R.; CHERTKOV, Kh.A.; SHIBANOV, B.V.; CHERNOV, M.I., red.; VITASHKINA, S.A., red.izd-va; BODROVA, V.A., tekhn. red.

[Handbook on ship repairs in two volumes] Spravochnik po remontu sudov v dvukh tomakh. Pod obshchei red. M.I. Chernova. Moskva, Izd-vo "Rechnoi transport." Vol.1. 1963. 550 p. (MIRA 16:12)

(Ships--Maintenance and repair)
(Marine engineering--Handbooks, manuals, etc.)

KHODZHAYEV, G.; OSIPOVA, M.I.; CHERNOV, M.F.; MAT'YAKUBOV, D.; KHALIKOV, R.; SAMSONOVA, L.M.

Petroleum of the Andizhan field. Uzb. khim. zhur. no.1:88-93 '60. (MIRA 14:4)

(Andizhan—Petroleum)

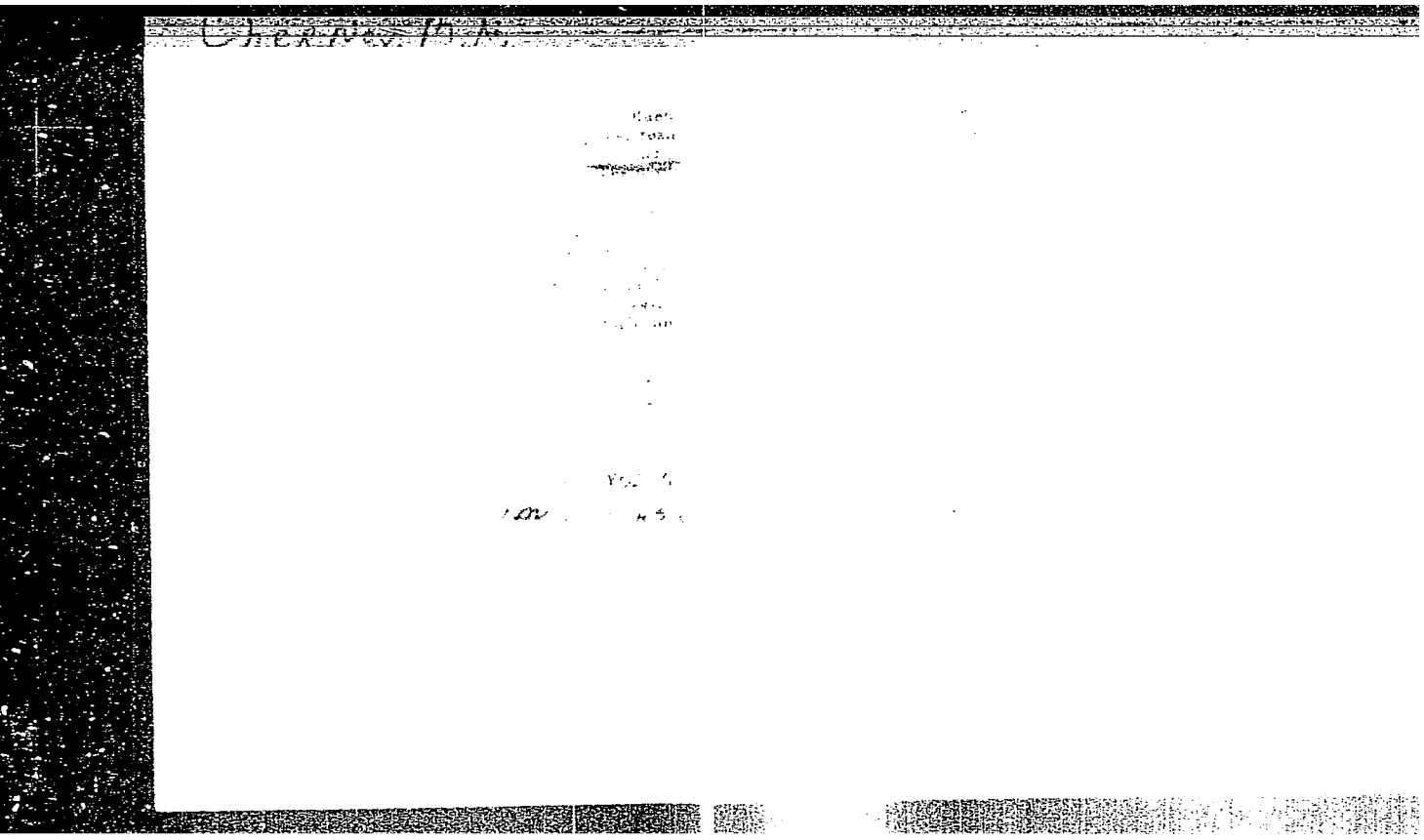
CHERNOV, M.L., (Odesa)

Supporting capacity of steel beams subjected to movable loads produced by a compound force system. Prikl.mekh. 2 no.4:409-419 '56. (MLRA 10:3)

1. Odes'kiy gidrotekhnichniy institut.
(Girders)

KARDASHOV, David Alekseyevich; KUDISHINA, Vera Alekseyevna; SHUMSKAYA, Nina Ivanovna; CHERNOV, M.M., kand. tekhn. nauk, retsenzent; ANTONOVA, S.D., red.

[Epoxy resins and safety measures to be applied in their handling] Epoksidnye smoly i tekhnika bezopasnosti pri rabote s nimi. Moskva, Mashinostroenie, 1964. 135 p. (MIRA 17:11)



SOV/149-58-4-21/26

AUTHORS: Vul'f, B.K., Chernov, M.N.

TITLE: Improving the Strength of Wrought Aluminium Alloys by Alloying Additions which Form Ternary Intermetallic Compounds (Uprochneniye deformirovannykh alyuminiyevykh splavov troynymi metallicheskimi soyedineniyami)

PERIODICAL: Izvestiya Vysshikh Uchebnykh Zavedeniy, Tsvetnaya Metallurgiya, 1958, Nr 4, pp 153-164 (USSR)

ABSTRACT: In continuation of their earlier work reported elsewhere (Ref.1-3), Vul'f and Chernov investigated the mechanical properties (ultimate tensile strength σ_B, proof stress $\sigma_{0.2}$, Brinell hardness H_B, and elongation δ) and age-hardening characteristics of several Al-base ternary alloys belonging to systems in which ternary intermetallic compounds are formed. All the investigated alloys (whose chemical composition is given in a table on p 154) consisted of two phases: The α (Al-base ternary solid solution) phase and the appropriate ternary intermetallic compound.

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Improving the Strength of Wrought Aluminium Alloys by Alloying Additions Which Form Ternary Intermetallic Compounds

The compounds, with their maximum content in the studied alloys given in brackets, are listed below. $Cu_2Al_{20}Mn_3$ (20%), Cu_3Al_6Ni (31%), $Mg_4Zn_3Al_3$ (32%), $Mg_2Al_{12}Cr$ (12%), $Al_9Si_3Mn_4$ (17%), $Al_{60}Mn_{11}Ni_4$ (16%) and Al_9FeNi (13%). The micro-hardness values of these compounds are given in a table on p 154. The experimental alloys were melted under cover of a protective flux, held for 20-60 minutes at a temperature 100-150°C above their melting points and cast into steel moulds preheated to 250°C. The billets were then extruded at 320°C - 450°C into 11 mm diameter rod from which the tensile test pieces were prepared. All the investigated materials were tested (a) in the as extruded condition, (b) after a solution treatment (2 hrs at 400°C-600°C followed by quenching), and (c) after ageing at 180-200°C for 30 hrs. The results showing the effect of the content of the intermetallic compounds on the properties of the Al alloys are

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Improving the Strength of Wrought Aluminium Alloys by Alloying Additions which form Ternary Intermetallic Compounds

reproduced graphically on Fig.2-9. It was found that in all the investigated systems σ_B, $\sigma_{0.2}$, and H_B increase and δ decreases when the content of the appropriate intermetallic compound is increased. This effect is most pronounced in the Al-$Mg_4Zn_3Al_3$ system. As regarding their mechanical properties, the alloys of this type are superior to those of the "Duralumin" type alloys, the typical values for the extruded materials being: $\sigma_B \cong 60$ kg/mm^2; $\sigma_{0.2} \cong 30$ kg/mm^2; $H_B \cong 150$; $\delta \cong 5\%$. After the solution treatment (quenching from 400-600°C) $\sigma_{0.2}$ decreased in every case; σ_B and H_B were decreased in a majority of cases, while δ generally increased. These changes are attributed to the fact that the internal stresses and work-hardening effects resulting from extrusion are removed by the solution treatment. Some of the alloys (Al-Cu_3Al_6Ni, Al-$Mg_4Zn_3Al_3$) in which the solid solubility of the ternary compound in Al increases with rising temperature, can be age-hardened (Fig.3, 4, 5). Thus, the mechanical properties of the

Improving the Strength of Wrought Aluminium Alloys by Alloying Additions which form Ternary Intermetallic Compounds

sclution treated alloy containing 32% $Mg_4Zn_3Al_3$ were: $\sigma_B \cong 35$ kg/mm^2; $\sigma_{0.2} \cong 25$ kg/mm^2; $H_B \cong 100$; $\delta \cong 11\%$. After age-hardening treatment these values changed to 60 kg/mm^2, 55 kg/mm^2, 210 and 1% respectively. There are 9 figures, 2 tables and 17 references of which 5 are Soviet, 6 German and 6 English.

ASSOCIATION: Moskovskiy Aviatsionnyy Institut (Moscow Aviation Institute)

SUBMITTED: 3rd June 1958.

SOV/149-58-5-13/18

AUTHORS: Vul'f, B.K. and Chernov, M.N.

TITLE: Corrosion Resistance of Aluminium Alloys Containing Ternary Intermetallic Compounds (Korrozionnaya stoykost' splavov alyuminiya s troynymi metallicheskimi soyedineniyami)

PERIODICAL: Izvestiya Vysshikh Uchebnykh Zavedeniy, Tsvetnaya Metallurgiya, 1958, Nr 5, pp 116 - 123 + 1 plate (USSR)

ABSTRACT: Of the ternary Al-based alloys, those forming pseudo-binary systems Al-ternary intermetallic compound are of particular interest. Owing to the high strength and heat-resisting properties of some of the ternary intermetallic compounds and to the fact that their solid solubility in the Al-rich phase usually changes with temperature, alloys of this type are often characterised by good mechanical properties, both at low and elevated temperatures. The object of the present investigation was to study the corrosion resistance of seven groups of Al alloys containing the following alloying elements: 1) Cu and Ni; 2) Cr and Mg; 3) Fe and Ni; 4) Cu and Mn; 5) Mn and Ni; 6) Mn and Si and 7) Mg and Zn. The composition of the experimental alloys is given in

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Corrosion Resistance of Aluminium Alloys Containing Ternary Intermetallic Compounds

Table 1, where the content both of the alloying elements and of the appropriate intermetallic compounds is shown (the characteristics of the metals used and the method of preparation of the alloys were described elsewhere - Ref 4). In order to improve the cast structure of the alloys, the ingots were first machined to 32 mm diameter and then extruded at 320 to 450 °C (speed of extrusion - 6 to 7 mm/sec) to produce 11 mm-diameter rods which were used for the preparation of the experimental test pieces. These were then heat-treated, the optimum conditions of the heat treatment having been determined previously. All alloys were quenched from temperatures 20 to 30 °C below the solidus and those in which the solid solubility of the intermetallic compound varied with temperature were age-hardened by nolding at 180 °C for 30 hours (alloys Al-Al_6Cu_3Ni) or at 100 °C for 47 hours (alloys Al-$Al_3Mg_4Zn_3$). The corrosion resistance of various alloys was assessed by comparing the ultimate tensile strength σ_B (kg/mm^2) and elongation δ(%) of uncorroded test pieces with the

Corrosion Resistance of Aluminium Alloys Containing Ternary Intermetallic Compounds

same two properties (denoted by σ_B' and δ') of specimens that had been subjected to corrosion tests. The corrosion tests were carried out at 20 °C and consisted of immersing the specimens for 7 days in a 3% aqueous solution of NaCl containing 0.1% H_2O_2. The results are reproduced graphically in Figures 1 to 7, where the values of σ_B, δ, σ_B' and δ' of the alloys of each of the seven investigated systems are plotted as a function of the content of the appropriate ternary intermetallic compound. It was found that some alloys (Al-Cr-Mg and Al-Mn-Si) corroded uniformly (Figure 8), some (Al-Mn-Ni and Al-Fe-Ni alloys) were subject to pitting corrosion (Figure 9), while in the case of alloys Al-Cu-Ni, Al-Cu-Mn and Al-Mg-Zn, intergranular corrosion occurred (Figures 10,11). The following conclusions were reached. The degree of the relative deterioration of the mechanical properties of the investigated alloys depends on the nature of the corrosive attack and on the amount of the intermetallic compound

Corrosion Resistance of Aluminium Alloys Containing Ternary Intermetallic Compounds

present in a given alloy. When intergranular corrosion occurs (systems Al-Al_6Cu_3Ni, Al-$Al_{20}Cu_2Mn_3$ and Al-$Al_3Mg_4Zn_3$), the decrease in the ultimate tensile strength is most pronounced and becomes larger with the increasing content of appropriate intermetallic compounds. Alloys of the systems Al-$Al_{12}CrMg_2$ and Al-$Al_9Mn_4Si_3$ corroded uniformly and to a lesser extent than other investigated alloys. The effect of corrosion on the mechanical properties of these alloys was comparatively small and in this respect they compared favourably with the standard Al-based alloys B95 (Cu 1.62, Zn 6.15, Mg 2.34, Cr 0.20, Mn 0.40, Fe 0.32 and Si 0.44%) and D16 (Cu 4.2, Mg 1.6, Mn 0.65, Fe 0.4, Si 0.35%). In the case of the experimental Al-Cr-Mg and Al-Mn-Si alloys, the ultimate tensile strength of the corroded specimens decreased by 5.7% and their ductility by 16.7%. The corresponding figures for the B95 alloy were 6.0 and 34.8% and for the D16 alloy 6.4 and 22.5%.

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Corrosion Resistance of Aluminium Alloys Containing Ternary Intermetallic Compounds

SOV/149-58-5-13/18

There are 11 figures, 1 table and 4 Soviet references.

ASSOCIATION: Voyenno-vozdushnaya inzhenernaya akademiya im. prof. N.Ye. Zhukovskogo i Moskovskiy aviatsionnyy institut (Air Force Engineering Academy imeni Prof. N.Ye. Zhukovskiy and Moscow Aviation Institute).

SUBMITTED: April 4, 1958

Card 5/5

KISHKIN, S.T., doktor tekhn.nauk; KLYPIN, A.A., kand.tekhn.nauk;
KARYAKINA, N.V., kand.tekhn.nauk, NIKOLENKO, V.V.; CHERNOV, M.N.

Investigating the relation of structure and properties of materials for gas-turbine blades to the duration of their use. Trudy MAI no.123:25-34 '60. (MIRA 13:8)
(Gas turbines--Blades)

1. CHERNOV, M.P.

2. USSR (600)

4. Brushes, Electric

7. Substituting electric collecting brushes made from bronze by those made from carbon., Rab.energ., 2, No.2, 1952

9. Monthly List of Russian Accessions, Library of Congress, February 1953. Unclassifie

1. CHERNOV, M.P.

2. USSR (600)

4. Electric Furnaces

7. Welding nickel-chromium with ferrum-chromium-aluminum alloy in electric furnaces, Rab.energ. 3 no. 3, 1953.

9. Monthly List of Russian Accessions, Library of Congress, APRIL 1953, Uncl.

CHERNOV, M.P.

AID P - 1937

Subject : USSR/Electricity

Card 1/1 Pub. 29 - 17/31

Author : Chernov, M. P. Electrician

Title : Induction heating instead of resistance ovens

Periodical : Energetik, 3, 22-23, Mr 1955

Abstract : The author describes the types of induction furnaces for drying armatures developed at his plant. He enumerates the advantages of such a furnace type over the previously used resistance ovens. One drawing.

Institution: None

Submitted : No date

BUTCHENKO, F.P., agronom; CHERNOV, M.P., red.; NEMCHENKO, I.Yu., tekhn. red.; CHEREVATSKIY, S.A. [Cherevats'kyi, S.A.], tekhn.red.

[Green fallows open up possibilities for increasing the feed supply] Zaniati pary - velykyi rezerv kormiv. Kyiv, Derzh. vyd-vo sil's'kohospodars'koi lit-ry URSR, 1960. 94 p. (MIRA 13:12)

(Fallowing)

AFENDULOV, Konstantin Panteleyevich; CHERNOV, M.P., red.; SAVCHENKO, M.S., tekhn.red.

[Fertilizer application to corn] Udobrennia kukurudzy. Kyiv, Derzh.vyd-vo sil's'kohospodars'koi lit-ry URSR, 1960. 78 p. (MIRA 14:1)

(Corn (Maize)--Fertilizers and manures)

KAVUN, Vasiliy Mikhaylovich. Prinimal uchastiye BUTCHENKO, F.P.
CHERNOV, M.P., red.; NEMCHENKO, I.Yu., tekhn.red.

[Great stride of the seven-year plan of a collective farm]
Shyrokyi krok semyrichky kolhospu. Kyiv, Derzh.vyd-vo
sil's'kohospodars'koi lit-ry, 1961. 100 p.
(MIRA 15:2)

1. Predsedatelya kolkhoza imeni Stalina, Bershadskogo rayona,
Vinnitskoy oblasti (for Kavun).
(Ukraine--Collective farms)

FEDOROV, Aleksandr Ivanovich [Fedorov, O.I.]; SNEGUR, Grigoriy Prokof'yevich [Snihur, H.P.]; KULIK, Georgiy Kuz'mich [Kulyk, H.K.]; CHERNOV, M.P., red.; NEMCHENKO, I.Yu., tekhn. red

[Cultivation and use of hybrid sugar beet seeds] Vyroshchuvannia ta vykorystannia hibrydnoho nasinnia tsukrovykh buriakiv. Kyiv, Derzhsil'hospvydav URSR, 1961. 98 p. (MIRA 15:7)

(Ukraine--Sugar beets)

BURDMAN, I.S.; CHERNOV, M.P., red.; GULENKO, O.I.[Hulenko, O.I.], tekhn. red.

[Guidebook to the Pavilion "Industrial crops and industries that process them"]Pavil'ion tekhnichni kul'tury i promyslovist' po ikh pererobtsi; putivnyk. Kiev, Derzh. vyd-vo sil'skohospodars'koi lit-ry URSR, 1961. 38 p. (MIRA 15:3)

1. Kiev. Vystavka peredovoho dosvidu v narodnomu hospodarstvi Ukrains'koi RSR.
(Ukraine--Agricultural exhibitions--Guidebooks)

SIGAL, Lev Al'bertovich[Sihal, L.A.]; CHERNOV, M.P., red.;
CHEREVATSKIY, S.A.[Cherevats'kyi, S.A.], tekhn. red.

[Tobaccos of the Ukraine] Tiutiuny Ukrainy. Kyiv, Derzhsil'-
hospvidav, URSR, 1962. 146 p. (MIRA 15:7)
(Ukraine--Tobacco)

VOL'F, Viktor Grigor'yevich; CHERNOV, M.P., red.; NEMCHENKO, I.Yu., tekhn. red.

[Sunflowers in the Ukraine] Soniashnyk na Ukraini. Kyiv, Derzhsil'hospovydav URSR, 1962. 190 p. (MIRA 15:7)
(Ukraine--Sunflowers)

KRYZHANOVSKIY, Vladimir Petrovich[Kryzhanivs'kyi, V.P.]; CHERNOV, M.P., red.; NEMCHENKO, I.Yu., tekhn. red.

[Our contribution to the building of communism] Nash vklad u budivnytstvo komunizmu. Kyiv, Derzh.vyd-vo sil's'kohospodars'koi lit-ry USSR, 1962. 104 p. (MIRA 16:5)

1. Zavedujushchiy kolkhozom "Mayak" Cherkaskogo rayona Cherkaskoy oblasti (for Kryzhanovskiy).
(Collective farms--Production standards)

IL'CHENKO, I.K., red.; CHERNOV, M.P., red.

[Each farm should grow high quality seed] Vyroshchuvaty sortove nasinnia v kozhnomu hospodarstvi. Kyiv, Derzhsil'hospvydav URSR, 1963. 151 p. (MIRA 17:4)

PAVLYUK, I.M.; CHERNOV, M.P., red.; NEMCHENKO, I.Yu., tekhn.red.

[Guidebook for the "Grain and Oilseed Crops" Pavilion] Pavil'ion "Zernovi ta oliini kul'tury." Putivnyk. Kyiv, Derzh. vyd-vo sil's'kohospodars'koi lit-ry URSR, 1963. 37 p. (MIRA 17:3)

1. Kiev. Vystavka peredovoho dosvidu v narodnomu [redacted]stvi URSR.

CHERNOV, M. S.

Fertilizers

Dissertation: "Investigation of the Commercial Properties of Granulated Organomineral Fertilizers." Cand Tech Sci, Moscow Inst of National Economy, Moscow, 1953. (Referativnyy Zhurnal--Khimiya, Moscow, No 3, Feb 54)

SO: SUM 213, 20 Sept 1954

CHERNOV, M.S.

USSR/Chemical Technology - Chemical Products and Their Application. Fertilizers, I-6

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 62128

Author: Gusev, S. P., Chernov, M. S.

Institution: None

Title: Conditions of Granulation and Commercial Characteristics of Granulated Organomineral Fertilizers

Original Periodical: Sb. nauch. rabot Mosk. in-te nar. kh-va, 1956, No 8, 223-234

Abstract: A procedure has been worked out for the granulation of mixtures of superphosphate (S) with sewage water sediments (SWS), after methane fermentation, containing N, P and K, and with peat, in a drum agglomerator. With different proportions of the components optimal conditions have been determined for obtaining a good granulometric composition of the product: moisture content of mixture, rate of rotation of agglomerator, duration of agglomeration, drying temperature. On mixing S with SWS the relative content of water-soluble

Card 1/2

USSR/Chemical Technology - Chemical Products and Their Application. Fertilizers, I-6

Abst Journal: Referat Zhur - Khimiya, No 16, 1956, 62128

Abstract: P_2O_5 (I) is considerably lowered while that of citrate-soluble P_2O_5 (II) only slightly, and with increase in SWS content the retrogradation becomes greater. On mixing S with peat the retrogradation of I to II takes place to a lesser degree, while retrogradation of II is greater than on mixing with SWS. Durability of granules from mixture of moist SWS and S is greater than that of granulated S, and the durability of granules increases with increase in SWS content. Durability of granules of a mixture of S and peat is somewhat less than that of a mixture of S and SWS. With decrease in moisture content of SWS durability of the granules is lowered: it is not appropriate to use dried SWS. Granules of a S and SWS mixture do not lower seed germination following conjoint storage for 24 hours, and show good scattering properties. The efficacy of S in the thus produced granules is 2-3 times greater than that of granulated S.

Card 2/2

S/081/61/000/022/036/076
B110/B101

AUTHORS: Gusev, S. P., Chernov, M. S.

TITLE: Protection of metal products against corrosion

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 22, 1961, 262, abstract 22I209 (Sb. nauchn. rabot. Mosk. in-t nar. kh-va, no. 17, 1961, 167 - 169)

TEXT: β-naphthol and colophony were found to be efficient inhibitors of steel corrosion with ~3 - 4% additions of lubricating oils. [Abstracter's note: Complete translation.]

Card 1/1

35909
S/123/62/000/004/009/014
A004/A101

1.1800

AUTHORS: Gusev, S. P., Chernov, M. S.

TITLE: Corrosion protection of metallic components by protective films

PERIODICAL: Referativnyy zhurnal, Mashinostroyeniye, no. 4, 1962, 48, abstract 4B298 ("Sb. nauchn. rabot. Mosk. in-t nar. kh-va", 1961, no. 20, 133 - 135)

TEXT: The authors present the results of investigations on the protection of metal components by thin films during protracted storage and transportation. Films consisting of 75% colophony and 25% oxidized petrolatum, and also of 85% colophony and 15% nonoxidized petrolatum possess good protective properties. The best solvent is the "Galosha" benzine, the solution concentration varies (in a range of 1 - 20%) depending on the duration and conditions of storing. The film can be applied by brush, dipping or spraying. The consumption of colophony and petrolatum per 1 m^2 of component surface is considerably less than that of fatty greases. If necessary, the film can be removed by rubbing the component with benzine, turpentine, kerosene and other solvents. Comparative tests of the anti-corrosion properties of the films have revealed that the protective properties of

Card 1/2

Corrosion protection of...

petrolatum and colophony films are considerably higher than those of spindle oil and gun grease. There is 1 table.

[Abstracter's note: Complete translation]

X

Card 2/2

CHERNOV, M.S., dots.; MIKEROVA, V.V., dots.; VORSINA, M.A., dots.; KUVSHINNIKOV, I.M., dots.; MIL'CHEV, V.A., dots.; MAYYER, M.M., prepod.; IVANOVA, V.M., assist.; TITOV, V.F., prepod.; GRISHINA, L.V., assist.; BELYAYEVA, Ye.M., assist.; POPOVA, L.F., asist.; GUSEV, S.P., prof., red.; SERGEYEVA, A.S., tekhn. red.

[Laboratory manual on general chemistry; for the students of the institutions of higher learning specializing in the study of commodities and technology] Rukovodstvo k prakticheskim zaniatiiam po obshchei khimii dlia studentov tovarovedenykh i tekhnologicheskikh spetsial'nostei vysshikh uchebnykh zavedenii. Pod obshchei red. S.P.Guseva. Moskva, 1962. 206 p. (MIRA 16:9)

1. Moscow. Institut narodnogo khozyaystva. Kafedra obshchey khimii.

(Chemistry—Laboratory manuals)

CHERNOV, M.S.

Winter temperature cycle in attic areas. Gor. khoz. Mosk. 35 no.11:3 of cover N '61. (MIRA 16:7)
(Attics)

CHERNOV, M.V.

USSR / Microbiology. Antibiosis and Symbiosis. Antibiotics. F-2

Abs Jour: Ref Zhur-Biol., 1958, No 17, 76707.

Author : Krivoshapkin, N. A.; Chernov, M. V.; Ivannikov, A. P.
Inst : Veterinary Institute, Kazakh Franch, All-Union Academy of Agricultural Sciences imeni I. V. Lenin.
Title : Use of Antibiotics in Laboratory Practice.

Orig Pub: Tr. In-ta vet. Kazakhs. fil. VASKHNIL, 1957, 8, 248-253.

Abstract: No abstract.

Card 1/1

CHERNOV, M.V., inzh.

Mechanized system for ramming the molds and cores for the manufacture of ingot molds. Lit. proizv. no.12:38-39 D '65. (MIRA 18:12)

PIVNENKO, G.P. [Pivnenko, H.P.]; CHERNOV, M.Yu.; SALO, D.P.

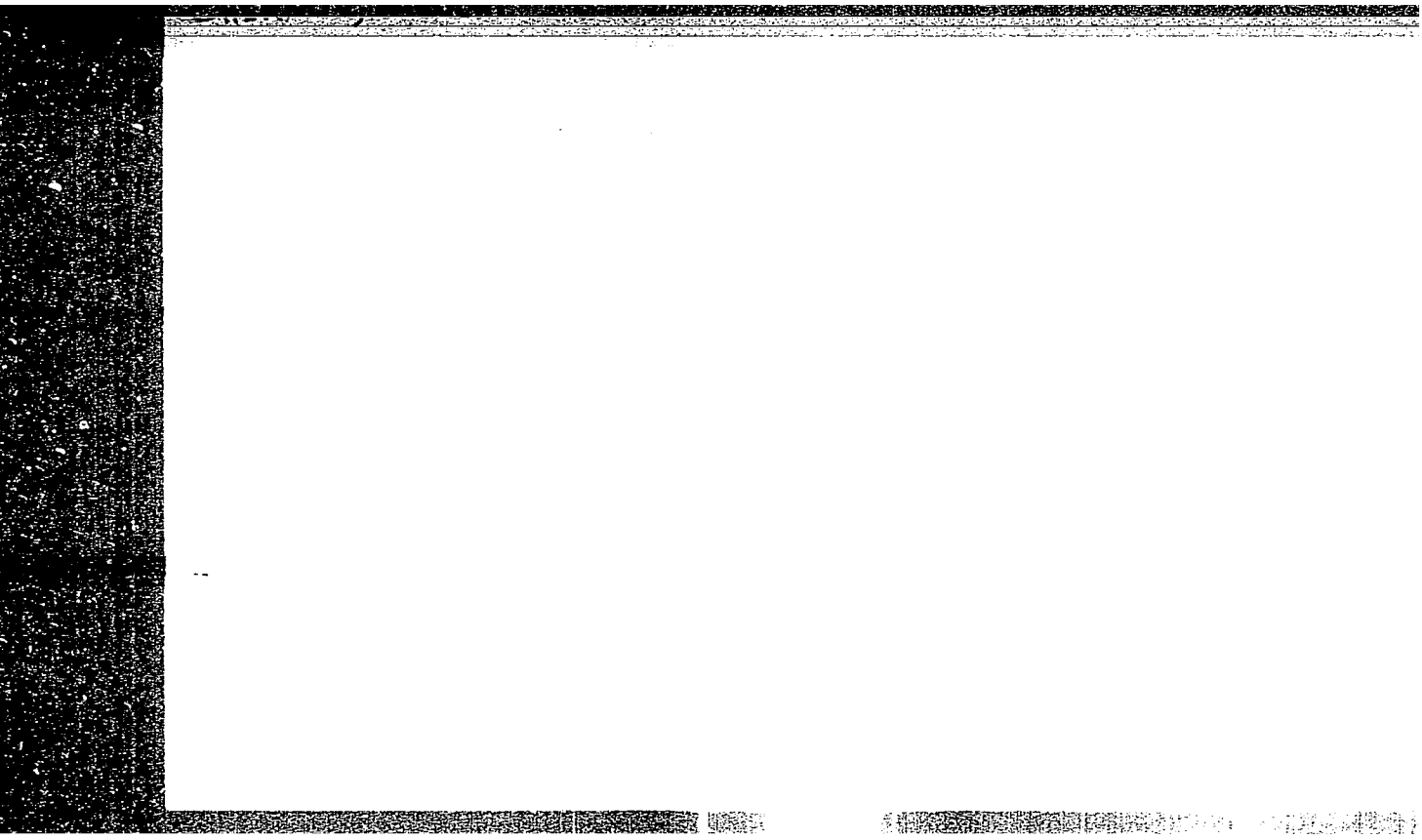
Use of bentonites as disintegrating materials in tablets. Farmatsev. zhur. 16 no. 2:31-33 '61. (MIRA 14:4)

1. Kafedra tekhnologii likars'kikh form i galenovikh preparativ Kharkivs'kogo farmatsevtychnogo institutu.
(TABLETS (MEDICINE)) (BENTONITE)

CHERNOV, M.Yu.; PIVNENKO, G.P. [Pivnenko, H.P.]; MARENICH, I.P. [Marenych, I.P.]

Production of drugs in the form of stable juices from the grass, Chelidonium majus. Farmatsev. zhur. 16 no.6:43-48 '61. (MIRA 15:5)

1. Kafedra tekhnologii lekarstvennykh form i galenovykh preparatov Khar'kovskogo farmatsevticheskogo instituta.
(CELANDINE)

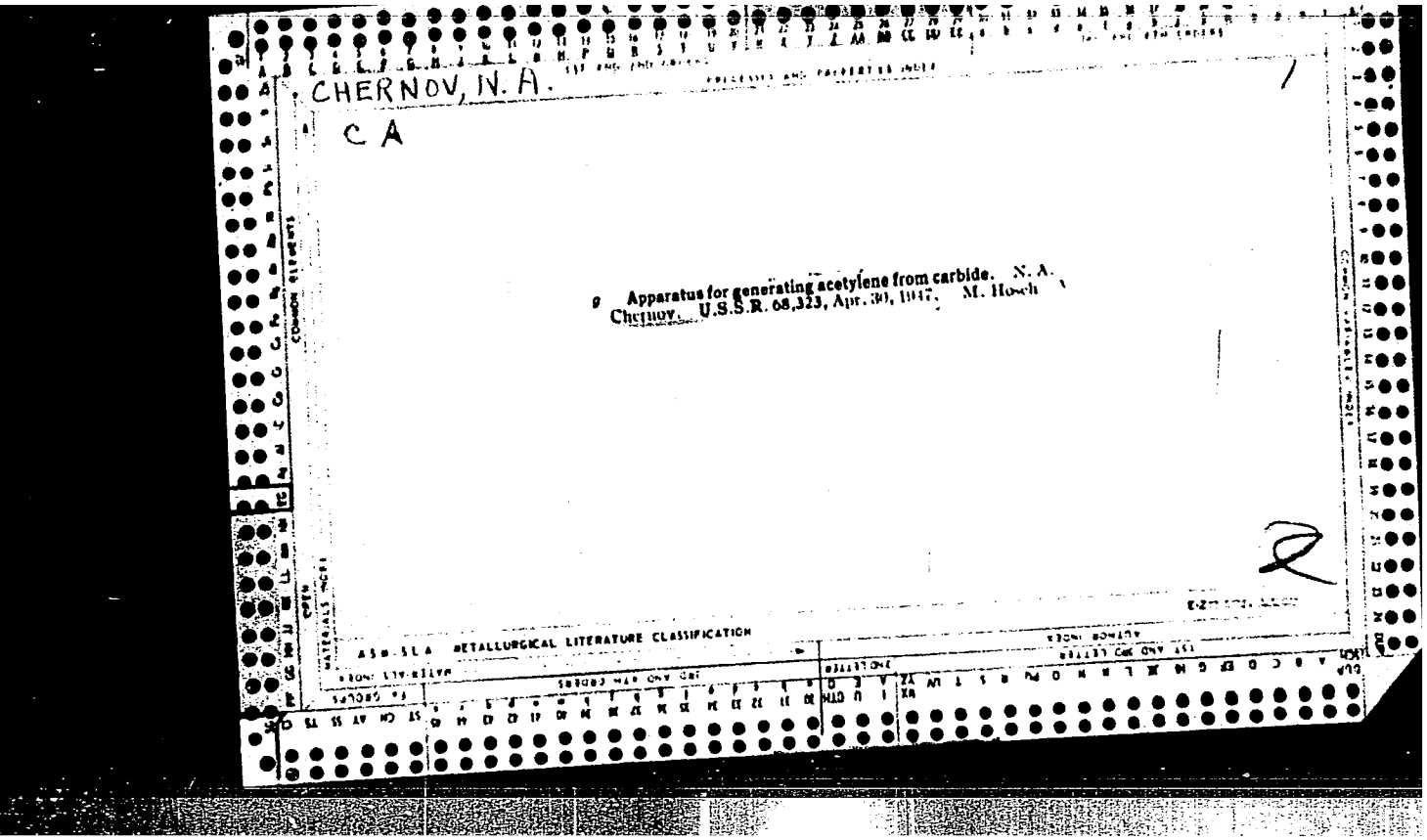


APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308530009-3"

CHERNOV, N., inzh. po tekhnike bezopasnosti

In the Mari Economic Council. Okhr.truda i sots.strakh. no.6: 67-68 D '58. (MIRA 12:1)

1. Mariyskiy sovnarkhoz.
(Mari A.S.S.R.--Industrial safety)



SOV/122-59-3-11/42

AUTHORS: Chernov N.K., Mart'yanov N.M., Levchenko L.B., Engineers, and Dyuringer, A.K.

TITLE: An Automatic Press for the Briquetting of Swarf (Press-avtomat dlya briketirovaniya struzhki)

PERIODICAL: Vestnik Mashinostroyeniya, 1959, Nr 3, pp 37-38 (USSR)

ABSTRACT: A so-called linear hydraulic automatic press for making briquettes of cast iron swarf in machine shops has been designed and made at the Gor'kiy Motorcar Works (Gor'kovskiy Avtomobil'nyy Zavod). A patent has been granted. The two-column press, mounted on an oil container bed, consists of the upper assembly containing the working hydraulic cylinder and the pressure multiplier, and a lower assembly containing a frame in which the loading mechanism, the pressure chamber and the briquette ejector are assembled. The lower assembly also contains the cylinder which displaces the pressure chamber. The pressure chamber loading mechanism is described in detail and diagramatically illustrated in Fig 2. A press as described has on test yielded 3 tons of briquettes, 5.5 g/cm3, in an 8-hour shift, of satisfactory strength and measuring 60 mm in diameter, weighing 700 g.

Card 1/2

SOV/122-59-3-11/42

An Automatic Press for the Briquetting of Swarf

Briquettes of this size have been successfully used in the charge of foundry furnaces. The manufacturing cost of the press is stated as 25,000 roubles. It occupies a floor space of 1200 x 670 mm and stands 1900 mm high. By changing the plunger stroke, the press can be converted for processing steel or non-ferrous alloy swarf.

There are 2 figures, including 1 photograph.

Card 2/2

ACC NR: AP6035927 SOURCE CODE: UR/0413/66/000/020/0194/0194

INVENTOR: Chernov, N. K.

ORG: none

TITLE: Power-driven hermetic centrifuged pump. Class 59, No. 187526

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 20, 1966, 194

TOPIC TAGS: pump, centrifugal pump, hermetic seal

ABSTRACT: A modification is proposed for the centrifugal pump described in Author Certificate No. 144401. To improve its efficiency, the pump's driven wheel (made of a magnetic material) is made in the form of a separate disk and is mounted on the shaft of the main impeller in the cavity of the pump housing. The housing cavity is sealed off by a hermetic diaphragm separating it from the pressure cavity, and it is connected by ducts to the suction cavity (see Fig. 1). Orig. art. has: 1 figure. [WA-88]

Card 1/2 UDC: 621.67-837

ACC NR: AP6035927

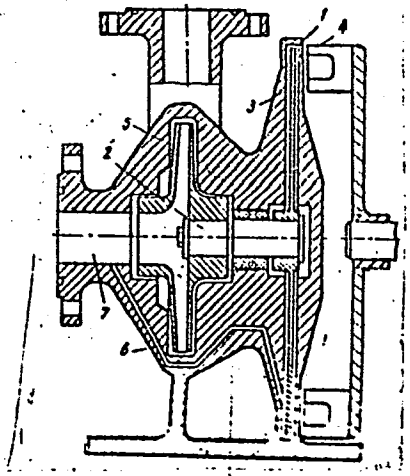


Fig. 1. Centrifugal pump

1 - Driving wheel; 2 - main impeller shaft; 3 - housing cavity; 4 - hermetic diaphragm; 5 - pressure cavity; 6 - ducts; 7 - suction cavity.

SUB CODE: 13,/ SUBM DATE: 16Nov62/

Card 2/2

CHERNOV, N. L.

CHERNOV, N. L. "The Limiting States of Steel Beams Under Movable Load." Min Higher Education USSR. Kiev Construction Engineering Inst. Kiev, 1955. (Dissertation for the Degree of Candidate in Technical Science)

So: Knizhnaya Letopis', No. 19, 1956.

CHERNOV, N.L. (Odessa)

Deformations of steel beams subjected to a movable system of forces beyond the elastic limit [in Ukrainian with summaries in Russian and English]. Prykl. mekh. 3 no.4:420-431 '57. (MIRA 11:2)

1. Odes'kiy gidrotekhnichniy institut.
(Girders)

CHERNOV, N.M.

The "Krasnoe Sormovo" shipyard strives for the title "enterprise of communist labor". Sudostroenie 27 no.10:18-19 O '61. (MIRA 14:12)

(Gorkiy--Shipbuilding)

CHERNAYA, Ye.P. [Chorna, Ye.P.] (Novaya Kakhovka); CHERNOV, M.L. [Chernov, M.L.] (Novaya Kakhovka)

Investigating the deformation of thin-walled rods subjected to skew bending beyond elastic limit. Prykl. mekh. 10 no.5:493-502 '64. (MIRA 17:10)

1. Odesskiy inzhenerno-stroitel'nyy institut.

PAVLOV-GRISHIN,S.I.; CHERNOV,N.N.

Accelerated heat stabilizing of wines. Vin.SSSR 15 no.3:12-14'55
(MLRA 8:8)

1. TSentral'naya nauchno-issledovatel'skaya laboratoriya VP Glavnogo upravleniya vinodel'cheskoy promyshlennosti (RSFSR) (for Pavlov-Grishin,). 2. Moskovskiy vinzavod No.2 Rosglavvino (for Chernov)

(Wine and wine making)

ZARUBIN, V.A.; BUYEVEROVA, Ye.M., retsenzent; CHERNOV, N.N., retsenzent; KOVALEVSKAYA, A.I., red.; SOKOLOVA, I.A., tekhn. red.

[Care of young wine; secondary processes of wine making] Ukhod za molodym vinom; vtorichnoe vinodelie. Izd.2. Moskva, Pishcheprom-izdat, 1961. 78 p. (MIRA 14:8)
(Wine and wine making)

CHERNOV, N. N.

USSR/Engineering FD 270

Card 1/1

Author : Chernov, N. N.

Title : A model study of gas-flow distribution in a blast furnace

Periodical : Iz. Ak. Nauk SSSR, OTN, 80-91, Jan 1954

Abstract : Discusses an experimental study of gas-flow distribution in a 1:25 scale model blast furnace. Includes conditions for modeling gas-flow motion in a blast furnace, methods of investigation, and results of experiment. Laboratory experiment studied effects of granulometric composition of furnace charge, protrusion of tuyeres, amount of air, and diameter of tuyeres on distribution of air in annular sections; relationship of static pressure to velocity and amount of gas passing through; and variation in static pressure in relationship to distance from center of furnace. Graphs, diagrams, tables. Three references--1930-1951.

Institution :

Submitted : July 15, 1953. Presented by Academician M. V. Kirpichev.

Evaluation B-80261

USSR/Engineering - Metallurgy FD-1457

Card 1/1 : Pub. 41-11/17

Author : Chernov, N. N., Stalinsk

Title : Investigation of oxidizing zone during operation with humidified blast of natural humidity

Periodical : Izv. AN SSSR, Otd. tekh. nauk 7, 105-115 - 1954

Abstract : Gives general considerations (review of previous investigations in this field), experimental method used, and results of investigation of the oxidizing zone of a blast furnace during operation with humidified blast and blast of natural humidity. Mentions that the work was done at the Dnepropetrovsk Metallurgical Institute under the supervision of A. D. Gotlib and I. P. Semik and with the assitance of I. G. Polovchenko. Diagrams; graphs. Fifteen references.

Institution :

Submitted : March 6, 1954

CHERNOV, Nikolay Nikitovich; KRASAVTSEV, N.I., redaktor; YABLONSKAYA,L.V., redaktor; IVANSON,I.M., tekhnicheskiy redaktor

[Gas flow in blast furnaces] Dvizhenie gazovogo potoka v domennoi pechi. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1955. 106 p. (MLRA 9:3)
(Gas flow) (Blast furnaces)

CHERNOV, N.N.

USSR/Engineering - Metallurgy FD-2620

Card 1/1 : Pub. 41-6/21

Author : Chernov, N. N., Domnitskiy, I. F., and Manchenko, G. S., Stalinsk

Title : Study of the change in static pressure in the stack of a blast furnace and the measurement of temperature in the hearth

Periodical : Izv. AN SSSR, Otd. Tekh. Nauk 4, 63-72, Apr 1955

Abstract : Discusses the effect of static pressure on the control of a blast furnace. Reviews previous literature on temperature measurements along the stack of a blast furnace. Describes methods used for measuring temperature in a blast furnace hearth. Finds that by comparing pressure differential between hearth and throat it is possible to establish a high pressure heat schedule. Graphs, formulae. Five USSR references.

Institution :

Submitted : February 26, 1955

CHERNOV N.

CHERNOV,N., ref.

Blast furnace design problems (From: "Blast Furnace and Steel Plant." 1954, no.8,pp. 934-36) Stal' 15 no.8:758 Ag'55. (MLRA 8:11)
(Blast furnaces)

CHERNOV, N.N.

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 5, p 35 (

AUTHORS: Chernov, N.N., Suchkov, I.A.

TITLE: On the Correlation Between the Distribution of Gases in the Hearth of a Blast Furnace and the Composition of the Shaft Gases (O vzaimosvyazi gazoraspredeleniya v gorne domennoy pechi s sostavom gaza v shakhte)

PERIODICAL: Sb. tr. Kuznetskogo mezhobl. pravl. Nauchno-tekhn. o-va chernoy metallurgii, 1956, Vol 1, pp 5-18

ABSTRACT: A comparison is made between curves showing the gas distribution along two mutually perpendicular diameters of the shaft as well as along the radius of the hearth. The static gas pressur was measured along the axis of the tuyeres from their elbows to the center of the furnace. Investigations have shown that, in th process of both steady and forced operation, the CO_2 contents the center and on the periphery of the furnace amount to appr imately 4% and 7%, respectively; the maximum CO_2 content proximately 15%. O_2 and CO_2 found along the axis of a tu ear completely at a distance of 0.75 m and 1.5 m, re the end of the tuyere (ET), while the content of

...per-
... In this
...combustion zone
...ppear and that the

ZEKTSER, A.I.; CHERNOV, N.N., kandidat tekhnicheskikh nauk, dotsent.

Apparatus for the control of exhausted upper slag. Metallurg no.1:21 Ja '56. (MLRA 9:9)

1.Master domennogo tsekha Kuznetskogo metallurgicheskogo kombinata (for Zektser).2.Sibirskiy metallurgicheskiy institut (for Chernov).
(Blast furnaces) (Slag)

AUTHOR: Chernov, N.N., Candidate of Technical Sciences, Domitskiy, I.F., Engineer and Suchkov, I.A. 133-5-2/27

TITLE: Rational positioning of the mixture valve on a blast furnace plant. (Ratsional'noye raspolozheniye smesitel'nogo klapana domennoy pechi).

PERIODICAL: "Stal'" (Steel) No. 5, pp. 389-391, 1956 (U.S.S.R.)

ABSTRACT: An investigation of the degree of mixing cold and hot blast at different positioning of the mixing valve was investigated on Nos. 1 and 2 blast furnaces of the Kuznetsk Works. On No. 1 furnace the valve was placed between the furnace and the first stove (Fig. 1 A) and on No. 2 furnace after the last stove (Fig. 1 B). Blast temperature was measured in 4 diametrically situated blow pipes (Fig. 2). It was found that by placing the mixing valve between the furnace and the first stove (Fig. 1 A) the temperature variation of the refractory lining of the hot blast main was decreased and a satisfactory mixing of hot and cold blast was obtained. The temperature of the blast in the blow pipes is lower than in the main, in summer by 30-40 °C and in winter by 50-80 °C. The temperature drop along the pipe was 18-25 C/m. Insulation of blow pipes will increase the blast temperature by about 20 °C. There are 6 figures and 3 references, 2 of which are Slavic.

Card 1/2

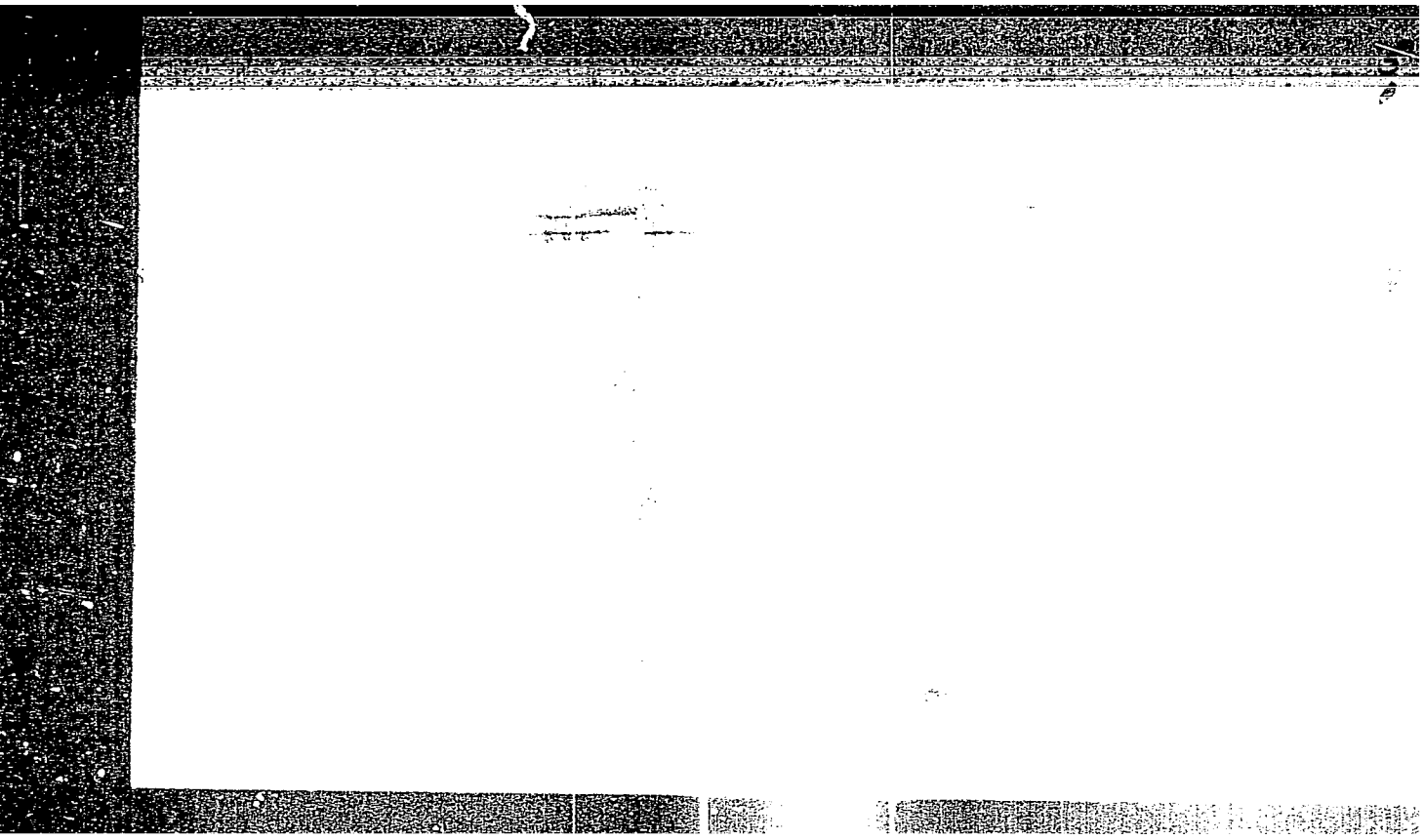
Rational positioning of the mixture valve on a blast furnace plant. (Cont.)

133-5-2/27

ASSOCIATION: Siberian Metallurgical Institute and the Kuznetsk Metallurgical Combine. (Sibirskiy Metallurgicheskiy Institut i Kuznetskiy Metallurgicheskiy Kombinat)

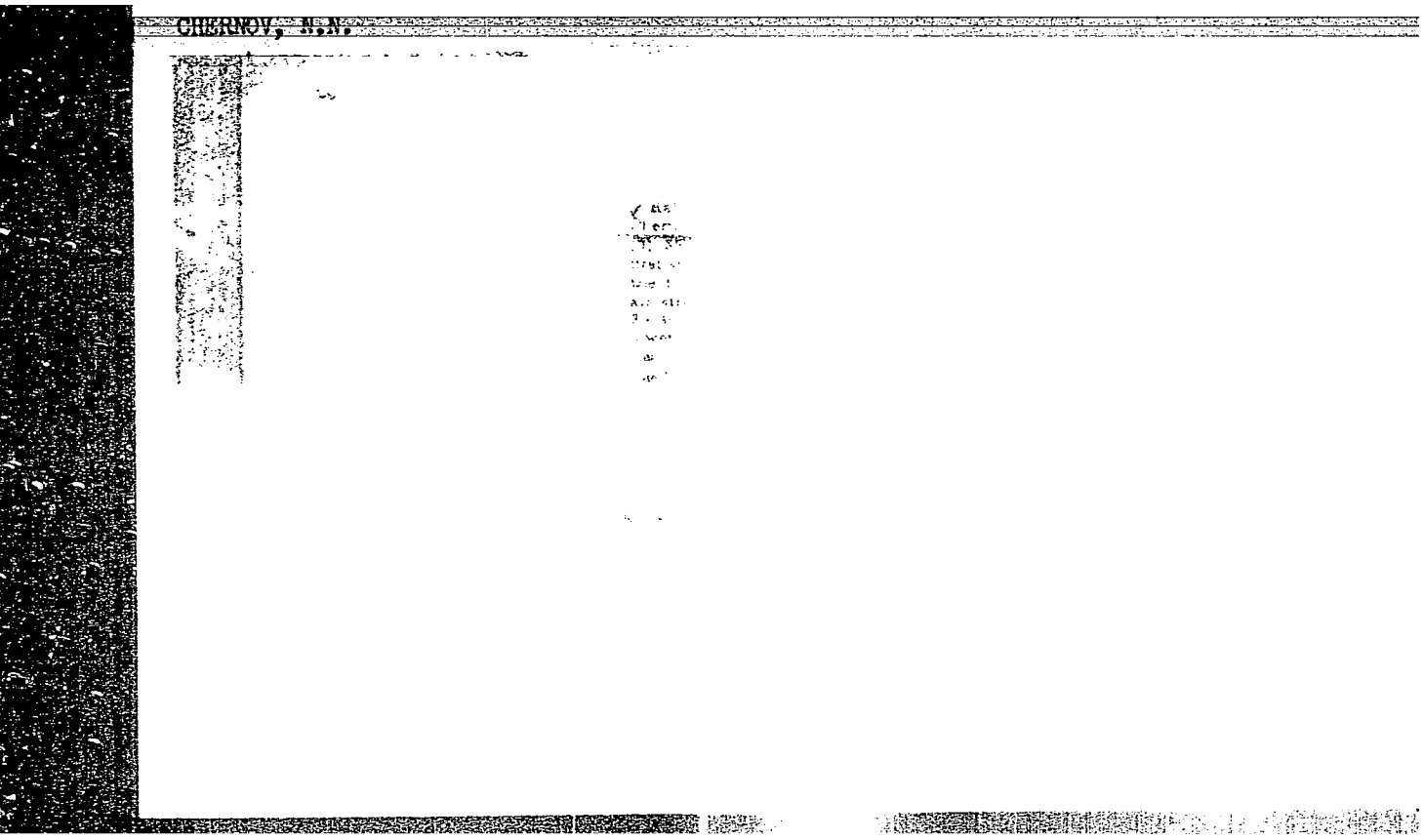
AVAILABLE:

Card 2/2



APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308530009-3"

Control of gas stream in a blast furnace. N. N. Chernov and I. F. Dominitskii. *Stal'* 16, No. 5, 402–9 (1956). A



SOV-120-58-1-20/43

AUTHORS: Komar, A. P. and Chernov, N. N.

TITLE: A High Voltage Multipulse Voltage Generator (Vysokovol'tnyy mnogoimpul'snyy generator napryazheniya)

PERIODICAL: Pribory i Tekhnika Eksperimenta, 1958, Nr 1, pp 82-84 (USSR)

ABSTRACT: The generator was designed to produce short high voltage pulses. The generator may be successfully used in electron microscopy, in semiconductor studies and in work on conductivity. The main requirements were as follows: (1) the generator should give a series of short pulses of 10 - 50 kV; (2) the duration of each pulse should be easily adjustable and lie in the range 0.5 to 3 μs; (3) the maximum number of pulses in series should be not less than 10; (4) the time interval between the pulses should be easily controlled and lie within the range 3 to 5 μs; (5) the repetition frequency should be 50 cps; (6) the envelope of the pulses must be of a given form; (7) the form of each pulse in a series should be sinusoidal or approximately sinusoidal; (8) the

Card 1/5

A High Voltage Multipulse Voltage Generator.

current in each pulse through a load should be of the order of 1 A. The circuit of the generator is a development of a well-known discharge circuit and is shown in Fig.1. The capacitor C charges up to a potential E_A and then discharges with the help of the thyratron T through the inductance L_1 which is the primary of an ironless transformer. The potential difference across a resistance R in the secondary is applied to the load with the anode earthed. A detailed circuit of the multipulse generator is shown in Fig.2. The series of pulses is produced as follows: the capacitors C_6 are charged from a regulated DC power supply at the output of the rectifiers Π_1 (Fig.2). These voltages are up 10 - 15 kV. If the thyratrons T_2 fire one after another, then the capacitors C_6 will discharge through the primary of the pulse transformer L_1 . The secondary of this transformer is connected so that the first peak of the voltage has a negative polarity while the second positive peak is cut off by the valves Π_5 . The successive

A High Voltage Multipulse Voltage Generator.

firing of the thyratrons T_2 is ensured by a delay line, shown in Fig.2 (1-10). The signals for the grids of the thyratrons T_2 are tapped off the line at the points 1-10 and are applied to the grids through amplifiers with cathode loads. Experiment has shown that a single cathode repeater does not ensure the firing of the thyratrons. It was found that the signal propagated along the line was considerably disturbed and its amplitude was lowered. This effect was compensated by means of the second cathode repeater Π_3 . In the absence of the delay pulse the current in the anode circuit of the thyratrons is zero. The thyratrons fire when a positive pulse with a fast rise time is applied to the delay line from the generator T_1 . In order to prevent the firing of all the thyratrons when the first thyratron fires (when a negative impulse appears on L_1 and therefore on the anodes of all the thyratrons), the capacitor C_5 is

A High Voltage Multipulse Voltage Generator.

introduced. When a negative pulse appears on the anodes of the thyratrons the total voltage on the non-working thyratrons reduces to zero, and as soon as the negative pulse disappears this voltage rises to its original level. This leads to the differential of the pulse at the anode of a non-working thyratron by the circuit consisting of the capacitance between the anode and the grid and the load resistance R_6 of the cathode repeater. As a result of the differentiation when the anode voltage of the thyratron increases, a positive pulse appears on the grids of the thyratrons and the thyratrons fire. The form of the envelope of a series of pulses was controlled by means of separate high voltage rectifiers, $Л_1$. The height of each impulse could be varied in this way. The capacitance C_6 determines the duration of each pulse. The interval between pulses is determined by the particular choice of the tappings

SOV-120-58-1-20/43

A High Voltage Multipulse Voltage Generator.

of the delay line. The pulse generator was used over a number of months and was quite stable. There are 2 figures, no tables and no references.

ASSOCIATION: Fiziko-tekhnicheskiy institut AN SSSR (Institute of Physics and Technology of the Academy of Sciences USSR)

SUBMITTED: June 14, 1957.

1. Pulse generators--Design 2. Pulse generators--Applications
3. Pulse generators--Performance 4. Pulse generators--Equipment

Card 5/5

CHERNOV, N.N., kand.tekhn.nauk, dots.; BARANOVSKIY, P.G., inzh.

Automatic control of gas flow in blast furnaces. Izv. vys. uchab. zav.; chern. met. no.7:79-89 Jl '58. (MIRA 11:10)

1. Sibirskiy metallurgicheskiy institut i Kuznetskiy metallurgicheskiy kombinat.
(Blast furnaces) (Gas flow) (Automatic control)

SOV/130-58-9-2/23

AUTHOR: Chernov, N.N., Candidate of Technical Sciences

TITLE: Blast-furnace Operations of the KMK (Tekhnologicheskiy rezhim raboty domennykh pechey KMK)

PERIODICAL: Metallurg, 1958, Nr 9, pp 4 - 7 (USSR)

ABSTRACT: The blast furnaces of the KMK (Kuznetsk Metallurgical Kombinat) normally smelt a low-manganese steel-making pig iron (mean composition for 1956 was 0.76% Si, 0.53% Mn, 0.049% S, 0.15% P) from a ferruginous burden containing 75% sinter (51-52% Fe, basicity 1.4), 1-2% Magnitogorsk ore and 23-24% Tashtagol ore; 55-60 kg of limestone are added per ton pig iron. Top-gas pressure is 0.6-0.65 atm., the mean coke rate and coefficient of utilisation of useful volume for the first five months of 1958 being 670 kg/ton and 0.667, respectively. Blowing rates (per minute) are kept (Fig 1) at about twice the useful volume of the furnaces and charges are made slowly. Blast temperature is normally kept at 820-850 °C with a humidity of 25 g/m³. Blast temperature and blowing rate are regulated to give best operation, preference generally being given to the raising of blast temperature (with appropriate increase in ore/coke ratio) to take advantage

Card 1/3

Blast-furnace Operations of the KMK

of improved permeability. The blast temperature (Figure 2) and ore/coke ratio (Figure 3) increased (though not without interruption) in 1950-1956. Slag composition for the low-manganese iron is 37.5% SiO_2, 13.45% Al_2O_3, 40.7% CaO, 5.4% MgO, 0.9% MnO and 0.65% FeO, smoothest working being obtained with 0.8-0.9% Si in the iron. Choked hearths are cleared by temporarily increasing the slag MnO-content by the addition of manganese ore or hearth cinder with extra heating in the hearth: normally 1-2 days on high-manganese (up to 1%) practice are carried out every one or two months. The charging cycle is normally COOCCx or OOCCCx alternating after a given number of charges with COOCCx. The stockline level is normally kept at 2 m, but this, like the charging cycle, is changed in relation to particular conditions. The normal coke charge is 5.0 - 5.5 tons, the distributor working for all six or (on furnaces Nrs 2 and 4) all 8 positions; when working with the recently-adopted COCOC x cycle, the distributor positions are changed after the first ore skip and not at the end of the charge. There are 4 figures.

Card 2/3

Blast-furnace Operations of the KMK SOV/130-58-9-2/23

ASSOCIATION: Sibirskiy metallurgicheskiy institut (Siberian Metallurgical Institute)

1. Blast furnaces--USSR 2. Balst furnaces--Operation
3. Steel--Production 4. Iron--Production

Card 3/3

SOV/133-58-12-4/19

AUTHORS: Chernov N.N., (Candidate of Technical Science), Docent, Zhiguiev P.G., Baranovskiy P.G., Obsharov,V.M., Rayev,Yu. O., and Kargin A.A., (Engineers).

TITLE: An Automatic Control of the Operation of a Blast Furnace Based on the Drop in Static Pressure (Avtomaticheskoye regulirovaniye khoda domennoy pechi po perepadu staticheskogo davleniya)

PERIODICAL: Stal', 1958, Nr 12, pp 1071-1077 (USSR)

ABSTRACT: The Central Automation Laboratory designed experimental equipment for the automatic control of blast furnace operation based on the pressure drop between the bustle pipe and furnace throat. The signal from the differential manometer acted in turn on the following controls: top pressure, temperature and humidity of blast, blast volume. The equipment was tested on a furnace in the Zaporozhstal' Works in 1954 and on the Kuznetsk Metallurgical Combine in 1956. It was soon found that the system as designed was unworkable. The investigations carried out in the Kuznetsk Combine indicated that changes in top pressure influence mainly the pressure drop between the throat and the middle of the stack, and changes in the blast

Card 1/5

An Automatic Control of the Operation of a Blast Furnace Based on the Drop in Static Pressure

humidity, blast temperature and blast volume affect mainly the pressure drop between the middle of the stack and tuyere level. It was therefore decided to base the automatic control on partial pressure drops between the tuyere level and the middle of the stack and between the middle of the stack and the throat. These partial drops in static pressure were measured with two DPES type differential manometers with a double electronic bridge (two standard electronic bridges operating on to a common recording strip). The reliability of the operation of this equipment depends mainly on the state of the opening in the furnace stack for measuring static pressure. This was successfully solved by arranging the opening through a cooler and cleaning it by a pneumatically operated rod (Figs 1 and 2). The recorded curve of the pressure drop between the above two levels during normal furnace operation is shown in Fig 3; during top hanging of the burden in Fig 4; during bottom hanging in Fig 5, and when the hearth is filled with iron and

slag, Fig 6. After preliminary investigation of the influence of the individual operating factors on the partial pressure drops a scheme for the automatic control was evolved, the electrical circuit diagram of which is given in Fig 7. If the top pressure drop exceeds a certain value then the controls will bring about a certain increase in the top pressure. If after some predetermined time the top pressure drop is not returned to its normal value then the blast volume will decrease by increments with a certain time interval between each increment. When a complete permitted correction of the blast volume is made, the controller of the bottom pressure drop is put into operation and begins to correct the temperature or humidity and volume of the blast. As a result of the above corrections the pressure drop may be restored to the required value. If the bottom pressure drop does not exceed normal value, then the blast volume begins to increase until it is returned to normal value and is then followed by the restoration of the top pressure. If the

An Automatic Control of the Operation of a Blast Furnace Based on the Drop in Static Pressure

bottom pressure drop exceeds the normal value then the controller of the top pressure drop is not permitted to restore normal operating conditions, but instead the controller of the bottom pressure drop begins to introduce corrections at first of blast temperature or moisture (in stages of 20°C and 2g/m^3) and then of the blast volume. Between each correction a time interval of 5 - 7 minutes is maintained. The restoration of the normal operating conditions is done in reverse order. If the pressure drop falls below the predetermined value, then at first either the blast temperature is increased or its humidity decreased and then the blast volume is

An Automatic Control of the Operation of a Blast Furnace Based on the Drop in Static Pressure

increased. The system was tested during a period of two weeks and in the great majority of cases gave the correct solutions.
There are 7 figures.

ASSOCIATION: Sibirskiy metallurgicheskiy institut i Kuznetskiy metallurgicheskiy kombinat (Siberian Metallurgical Institute and Kuznetsk Metallurgical Combine)

KHITSENKO, V.V., kand.tekhn.nauk. Prinimali uchastiye: CHERNOV, N.N., inzh.; KOLESIN, I.D., ispolnyayushchiy obyazannosti inzhenera. SHISTER, G.M., red.

[Using the LNII AKKh strain-measuring devices in investigating vibratory machines and installations of urban transportation; scientific information] Primenenie tenzometricheskoi apparatury konstruktsii LNII AKKh v issledovaniiakh vibratsionnykh mashin i sooruzhenii gorodskogo transporta; nauchnoe soobshchenie. Pushkin, 1959. 37 p. (MIRA 13:6)

1. Akademiya kommunal'nogo khozyaystva.
(Strain gauges)

66188

~~9(2,3), 21(8)~~ 21.2300 SOV/146-59-2-8/23

AUTHORS: Korovin, O.P., Kulikov, A.V., and Chernov, N.N.

TITLE: Stabilization and Control of the Maximum γ-Radiation Energy of 100 meV Synchrotron

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy - priborostroyeniye, 1959, Nr 2, pp 47-51 (USSR)

ABSTRACT: In order to maintain stability of the maximum γ-radiation energy of a synchrotron, it is necessary that the discharge of electrons on the target take place at one and the same value of magnetic field in the clearance of the accelerator magnet. To this end, it is sufficient to switch out the high-frequency resonator tension in each acceleration cycle, at one and the same value of magnetic field on the equilibrium orbit. On the synchrotron LFTI, the moment of switching off is connected with the magnetic field. In the air clearances of the magnetic circuit (Fig 1), when the accelerator feed current passes, a magnetic field appears, similar, by the time dependence, to the field in the accelerator clearance. For this

Card 1/3

Stabilization and Control of the Maximum γ-Radiation Energy of 100 meV Synchrotron

purpose, the ampereturns are selected so that the induction in the core have the same value, as in the accelerator core. Thus, the possibility for changing the magnetic field "zero" level is created, by using the small magnetic current of the central core; this change is noted by a permalloy transducer. There were two of such magnetic circuits made, by means of which, connection of the high-frequency generator switching on and off moments with the accelerator magnetic field was realized. The components of the circuit were: Iron Sh-50; set thickness - 15 mm; thickness of each plate - 0.3 mm; coil L_1 - 3+3 turns; coil L_2 - 10,000 turns; leads, respectively, S = 20 mm^2 and PE - 0.1. For the magnetic field "zero" transducer, a permalloy tape 0.08 mm thick and 0.5 mm wide was used. Layout of the auxiliary magnetic circuit is shown in Fig 1; magnetic circuit L_2 is fed from the current stabilizer with a stabilization coefficient 0.05%. In order to

Card 2/3

4

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SOV/146-59-2-8/23

Stabilization and Control of the Maximum γ-Radiation Energy of 100 meV Synchrotron

increase the stability of maximum energy radiation, a design for stabilization of tension on the accelerator magnet has been worked out; this permitted a further increase in the constancy of energy. Research has disclosed that the maximum γ-radiation energy of synchrotrons, when one and the same current passes through the auxiliary magnetic circuit, varies even over long periods of time (of a monthly order), not more than by 0.8%. Recommended by the Vtoraya mezhvuzovskaya konferentsiya po elektronnym uskoritelyam (2nd Inter-Vuz Conference on Electronic Accelerators). There are 2 graphs, 2 diagrams and 4 references, 3 of which are Soviet and 1 English.

ASSOCIATION: Leningradskiy fiziko-tekhnicheskiy institute AN SSSR (Leningrad Physico-Technical Institute AS USSR)

SUBMITTED: December 30, 1958

Card 3/3

CHERNOV, N.N., kand.tekhn.nauk dots.; ZHIGULEV, P.G., inzh.; YEGOROV, A.F., inzh.; KARACHENTSEV, M.D., inzh.

Technology of making foundry iron in blast furnaces of the Kuznetsk Metallurgical Combine. Izv.vys.ucheb.zav.; chern. met. 2 no.8:21-29 Ag '59. (MIRA 13:4)

1. Dneprodzerzhinskiy vecherniy metallurgicheskiy institut i Kuznetskiy metallurgicheskiy kombinat. Rekomendovana kafedroy metallurgii chernykh metallov Dneprodzerzhinskogo vechernego metallurgicheskogo instituta.
(Stalinsk--Blast furnaces)
(Foundries--Equipment and supplies)

KULIKOV, A.V.; MIKHEYEV, G.F.; CHERNOV, N.N.

Letter to the editor. Izv.vys.ucheb.zav.; prib. 3 no.3:123-125 '60. (MIRA 14:4)

(Betatron)

CHERNOV, N.N.

PHASE I BOOK EXPLOITATION SOV/5153

Garmonov, I.V., and B. S. Korotkevich, Resp. eds.

Sintez monomerov dlya proizvodstva sinteticheskogo kauchuka (Synthesis of Monomers for the Production of Synthetic Rubber) Leningrad, Goskhimizdat, 1960. 230 p. Errata slip inserted. 4,500 copies printed.

Sponsoring Agencies: Gosudarstvennyy komitet Soveta Ministrov SSSR. Upravleniye SK i neftekhimii. Giprokauchuk i VNIISK.

Eds.: S.A. Zonis and Ye. I. Shur; Tech. Ed.: T.A. Fomkina.

PURPOSE: This book is intended for scientists, engineers, and technicians working in the synthetic rubber, plastics, and petroleum refining industries, and in scientific research institutes affiliated with these industries.

COVERAGE: The book contains articles which report on research carried out at the Nauchno-issledovatel'skiy institut sinteticheskogo kauchuka imeni Akademika S.V. Lebedeva (Scientific Research Institute for Synthetic Rubber imeni Academician S.V. Lebedev) and the Gosudarstvennyy proyektnyy i nauchno-issledovatel'skiy institut promyshlennosti sinteticheskogo kauchuka (State Scientific Research and Design Institute of the Synthetic Rubber Industry) in the synthesis of isoprene, styrene, acetylenes, acetaldehyde, and other initial products for synthetic rubber production. The articles also discuss methods of extracting these products from their preparatory media. No personalities are mentioned. References accompany individual articles.

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SOV/57-30-1-5/18

AUTHORS: Mikheyev, G. F., Chernov, N. N.

TITLE: Stabilization of γ-Ray Radiation Intensity in Betatrons and Synchrotrons

PERIODICAL: Zhurnal tekhnicheskoy fiziki, 1960, Vol 30, Nr 1, pp 37-40 (USSR)

ABSTRACT: In the present paper the authors describe the principle and operation of a feedback stabilization of intensity used on the synchrotron FTI AN SSSR (PTI AS USSR). The method was first proposed by Fry and others (see references). The most convenient follow-up parameter is the time T of application of the high voltage impulse on the injector (or briefly, the injection time). On the FTI synchrotron this time is adjusted by varying the magnetizing dc current I_{-} of the permalloy feeler of the zero magnetic field, located in the gap of the synchrotron electromagnet. The feedback circuit is represented on Fig. 2. The ionization chamber (A) potential of the

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order of 4-6 v is compared with the constant potential E. The amplifier sensitivity is 100 ma/v, which gives for the feedback amplification a factor $K = \frac{\Delta J}{\delta J} = 75$, where ΔJ is variation of intensity without the feedback arrangement, and δJ is the assigned instability limit. The current amplification factor is $k_c = 10^6$ and the zero drift in not bigger than 0.1 mv/hour. Figure 3 represents experimental curves of intensity variations versus the switch-on time T_{hf} of the high frequency voltage on the synchrotron resonator, at 90 and 50% stabilization level. The broken line is the $J = f(T_{hf})$ in absence of feedback. In Fig. 4 are curves of intensity versus the injection time, T, for 90 and 50% of the maximum level in the absence of stabilization. The broken line is again the ordinary intensity line without stabilization. The authors emphasize that the resonator potential and injection time are two independent synchrotron parameters,

Stabilization of γ-Ray Radiation Intensity in Betatrons and Synchrotrons

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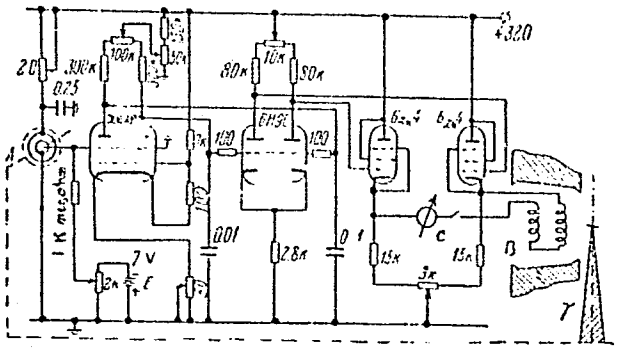

Fig. 2. (A) ionization chamber; (B) magnetization coil of the permalloy feeler located in the synchrotron gap; (C) controlling device; (E) battery, γ - γ-ray beam, entering the ionization chamber.

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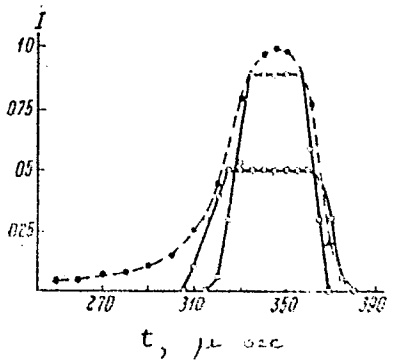

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Fig. 3. Intensity versus the switch-on time of potential on the synchrotron resonator.

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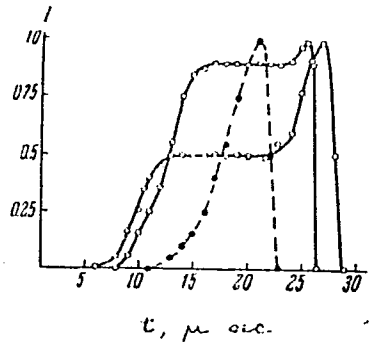

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Fig. 4. Intensity versus injection time.

and almost all betatron parameters are connected to the injection time parameter, even if only in a limited region. In general, the maximum stabilization level $J^*_{max} = J_{max} - \Delta J$, where J_{max} is the maximum value of current in the absence of feedback. For the above mentioned dependent parameters the maximum stabilization level will be given by:

$$J_{max} - \Delta J_p < J^*_{max} < J_{max} - \delta J,$$

where ΔJ_p is absolute value of instability due to the particular dependent parameter. The exact position of J^*_{max} is then determined by the degree of coupling between the follow-up parameter and the dependent one. For the totality, the maximum possible level of stabilization lies higher than $J_{max} - \Delta J$, and this represents the

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biggest advantage when choosing the injection time as the follow-up parameter. Working at 90% of J_{max}, the intensity of the FTI synchrotron was constant with an accuracy of 1%. All the operator had to do is to keep the operating stabilization point in the middle of the stabilization region. There are 5 figures; and 4 references, 2 Soviet, 1 U.K., 1 U.S. The U.S. and U.K. references are: S. Ciordano, G. K. Green, E. J. Rogers, Rev. of Scient. Instr., 24, 848-850 (1953); D. W. Fry, I. Dain, H. H. H. Watson, H. F. Payne, Proc of the JEE, I, 305-319 (1950).

ASSOCIATION: Physico-Technical Institute AS USSR, Leningrad C. (Fiziko-tekhnicheskiy institut AN SSSR, g. Leningrad)

SUBMITTED: July 3, 1959

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KOMAR, A.P., MIKHAYEV, G.F., FOMINENKO, V.P., CHERNOV, N.N.

New methods for investigating the process of injection of electrons into the betatron. Zhur. tekh. fiz. 30 no.7:855-859 Jl '60. (MIRA 13:8)

1. Fiziko-tekhnicheskiy institut AN SSSR, Leningrad. (Betatron)

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AUTHORS: Komar, A.P., Mikheyev, G.F., and Chernov, N.N.

TITLE: A Method of Extremum Regulation of the Intensity of γ-Radiation of Elementary Particles' Accelerators

PERIODICAL: Byulleten' izobreteniy, 1961, No. 3, p. 32

TEXT: Class 21g, 36. No. 135552 (670472/26 of June 16, 1960). This method entails the use of devices with radio-channels employed in the initial processing of γ-radiation pulses, amplifier circuits, a switch, comparison circuits, and a dc amplifier. Its novel feature is that in order to increase operational stability and insure an automatic atuning of the accelerator (a betatron or a synchrotron), regulation is carried-out in accordance with the injection time and the time of connecting a high-frequency voltage into the amplifier resonator.

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CHERNOV, N.N.; CHECHURO, A.N.

Optimum composition of blast furnace slag in southern plants.
Metallurg 6 no.4:6-8 Ap '61. (MIRA 14:3)

1. Dneprodzerzhinskiy metallurgicheskiy institut i Zavod imeni Dzerzhinskogo.
(Russia, South--Metallurgical plants)
(Slag--Analysis)